

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (original) A control apparatus of an electric power steering apparatus comprising:  
a motor applying a steering assist force to a steering system of a vehicle; and  
a current command value calculating means for calculating a q-axis current command value  $I_{qref}$  controlling an output torque of the motor and a d-axis current command value  $I_{dref}$  controlling a magnetic field of the motor,  
wherein the control apparatus is provided with a current command value correcting means for calculating a corrected q-axis current command value  $I_{qc}$  obtained by correcting the q-axis current command value  $I_{qref}$  on the basis of a rotor position  $\theta$  of the motor, and controls the motor on the basis of the corrected q-axis current command value  $I_{qc}$ .
2. (original) A control apparatus of an electric power steering apparatus as claimed in claim 1, wherein the current command value correcting means calculates the corrected q-axis current command value  $I_{qc}$  obtained by correcting the q-axis current command value  $I_{qref}$  on the basis of the rotor position  $\theta$  of the motor and an angular velocity  $\omega$  of the rotor.
3. (original) A control apparatus of an electric power steering apparatus as claimed in claim 1, wherein the current command value correcting means calculates the corrected q-axis current command value  $I_{qc}$  obtained by correcting the q-axis current command value  $I_{qref}$  on the basis of the rotor position  $\theta$  of the motor and the q-axis current value  $I_{qref}$ .
4. (original) A control apparatus of an electric power steering apparatus as claimed in claim 1, wherein the current command value correcting means calculates the corrected q-axis current command value  $I_{qc}$  by adding a basic correcting current  $I_c$  previously determined by the rotor position  $\theta$  to the q-axis current command value  $I_{qref}$ .

5. (original) A control apparatus of an electric power steering apparatus as claimed in claim 2, wherein the current command value correcting means calculates the corrected q-axis current command value  $I_{qc}$  by adding a compensated current value ( $K_w \cdot K_d \cdot I_c$ ) obtained by multiplying a basic correcting current  $I_c$  previously determined by the rotor position  $\theta$  by a coefficient  $K_w$  determined by the angular velocity  $\omega$  of the rotor to the q-axis current command value  $I_{qref}$ .

6. (original) A control apparatus of an electric power steering apparatus as claimed in claim 3, wherein the current command value correcting means calculates the corrected q-axis current command value  $I_{qc}$  by adding a compensated current value ( $K_q \cdot K_d \cdot I_c$ ) obtained by multiplying a basic correcting current  $I_c$  previously determined by the rotor position  $\theta$  by a coefficient  $K_q$  determined by the q-axis current command value  $I_{qref}$  to the q-axis current command value  $I_{qref}$ .

7. (original) A control apparatus of an electric power steering apparatus as claimed in claim 1, wherein the current command value correcting means is constituted by a basic correcting current calculating means outputting a basic correcting current  $I_c$  previously determined by the rotor position  $\theta$ , an encoding means determining and outputting a code of the q-axis current command value  $I_{qref}$ , and a first multiplying portion multiplying the basic correcting current  $I_c$  by a signal from the encoding means and adding to the q-axis current command value  $I_{qref}$ .

8. (original) A control apparatus of an electric power steering apparatus as claimed in claim 7, wherein the control apparatus is provided with a coefficient calculating means calculating a coefficient  $K_w$  on the basis of the angular velocity  $\omega$  of the rotor, and a second multiplying portion multiplying the basic correcting current  $I_c$  by the coefficient  $K_w$ , and inputs an output ( $K_w \cdot I_c$ ) of the second multiplying portion to the first multiplying portion.

9. (currently amended) A control apparatus of an electric power steering apparatus as claimed in claim 7-~~or~~8, wherein the control apparatus is provided with a spark advance portion advancing the angular velocity  $\omega$ , and an adding means adding an angular velocity

advanced by the spark advance portion to the rotor position  $\theta$ , and inputs an output of the adding means to the basic correcting current calculating means.

10. (original) A control apparatus of an electric power steering apparatus comprising:  
a motor applying a steering assist force to a steering system of a vehicle; and  
a current command value calculating means for calculating a q-axis current command value  $I_{qref}$  controlling an output torque of the motor and a d-axis current command value  $I_{dref}$  controlling a magnetic field of the motor,

wherein the control apparatus is provided with a current command value correcting means for calculating a corrected q-axis current command value  $I_{qc}$  obtained by correcting the q-axis current command value  $I_{qref}$  on the basis of a rotor position  $\theta$  of the motor and the d-axis current command value  $I_{dref}$ , and controls the motor on the basis of the corrected q-axis current command value  $I_{qc}$ .

11. (original) A control apparatus of an electric power steering apparatus as claimed in claim 10, wherein the current command value correcting means calculates the corrected q-axis current command value  $I_{qc}$  obtained by correcting the q-axis current command value  $I_{qref}$  on the basis of the rotor position  $\theta$  of the motor, the d-axis current command value  $I_{dref}$  and an angular velocity  $\omega$  of the rotor.

12. (original) A control apparatus of an electric power steering apparatus as claimed in claim 10, wherein the current command value correcting means calculates the corrected q-axis current command value  $I_{qc}$  obtained by correcting the q-axis current command value  $I_{qref}$  on the basis of the rotor position  $\theta$  of the motor, the d-axis current command value  $I_{dref}$  and the q-axis current value  $I_{qref}$ .

13. (original) A control apparatus of an electric power steering apparatus as claimed in claim 10, wherein the current command value correcting means calculates the corrected q-axis current command value  $I_{qc}$  by adding a compensating current value ( $K_d \cdot I_c$ ) obtained by multiplying a basic correcting current  $I_c$  previously determined by the rotor position  $\theta$  by a coefficient  $K_d$  determined by the d-axis current command value  $I_{dref}$  to the q-axis current command value  $I_{qref}$ .

14. (original) A control apparatus of an electric power steering apparatus as claimed in claim 11, wherein the current command value correcting means calculates the corrected q-axis current command value  $I_{qc}$  by adding a compensated current value ( $K_w \cdot K_d \cdot I_c$ ) obtained by multiplying a compensating current value ( $K_d \cdot I_c$ ) obtained by multiplying a basic correcting current  $I_c$  previously determined by the rotor position  $\theta$  by a coefficient  $K_d$  previously determined by the d-axis current command value  $I_{dref}$ , by a coefficient  $K_w$  determined by the angular velocity  $\omega$  of the rotor to the q-axis current command value  $I_{qref}$ .

15. (original) A control apparatus of an electric power steering apparatus as claimed in claim 12, wherein the current command value correcting means calculates the corrected q-axis current command value  $I_{qc}$  by adding a compensated current value ( $K_q \cdot K_d \cdot I_c$ ) obtained by multiplying a compensating current value ( $K_d \cdot I_c$ ) obtained by multiplying a basic correcting current  $I_c$  previously determined by the rotor position  $\theta$  by a coefficient  $K_d$  determined by the d-axis current command value  $I_{dref}$ , by a coefficient  $K_q$  determined by the q-axis current command value  $I_{qref}$  to the q-axis current command value  $I_{qref}$ .